What is claimed is:

1. An orthogonal frequency division multiplexing (OFDM) communication method to adapt to channel characteristics, comprising the steps of changing at least one of a length of a transmission symbol, a format of a frame, and a format of the transmission symbol depending on a type of the transmission symbol and a radius of a cell, in which communication is performed.

2. The OFDM communication method of claim 1, wherein the changing steps comprises the following steps:

(a) determining whether the transmission symbol is a symbol that is used for a control channel;

(b) if it is determined that the transmission symbol is the symbol that is used for a control channel, determining a first symbol containing control information as the transmission symbol;

(c) if it is determined that the transmission symbol is not the symbol that is used for a control channel, determining whether the cell radius is greater than a first predetermined value;

(d) if it is determined that the cell radius is greater than the first predetermined value, determining a second symbol, which is suitable to channel characteristics where a channel change speed is slow and a channel length is long, or a third symbol, which is suitable to channel characteristics where the channel change speed is fast and the channel length is long, as the transmission symbol;

(e) if it is determined that the cell radius is not greater than the first predetermined value, determining whether the cell radius is greater than a second predetermined value;

(f) if it is determined that the cell radius is greater than the second predetermined value, determining a fourth symbol, which is suitable to channel characteristics where the channel change speed and the channel length are medium, as the transmission symbol; and

(g) if it is determined that the cell radius is not greater than the second predetermined value, determining a fifth symbol, which is suitable to channel characteristics where the channel change speed is slow and the channel length is short, as the transmission symbol,

wherein the second predetermined value is less than the first predetermined value, a length of the fourth symbol is less than a length of the second symbol, and a length of each of the first, third, and fifth symbols is less than the length of the fourth symbol.

3. The OFDM communication method of claim 2, wherein the length of each of the second, third, fourth, and fifth symbols is an integer multiple of the length of the first symbol.

4. The OFDM communication method of claim 2, wherein the length of each of the second, third, and fourth symbols is an integer multiple of the length of the fifth symbol.

5. The OFDM communication method of claim 2, further comprising the step of adjusting the length of the determined transmission symbol by changing the number of carrier waves

6. The OFDM communication method of claim 1, wherein changing step comprises the steps of:

(h) determining whether the radius cell is greater than a first predetermined value;

(i) if it is determined that the radius cell is greater than the first predetermined value, converting the format of the frame into a macro format;

(j) if it is determined that the radius cell is not greater than the first predetermined value, determining whether the radius cell is greater than a second predetermined value;

(k) if it is determined that the radius cell is greater than the second predetermined value, converting the format of the frame into a micro format; and

(l) if it is determined that the radius cell is not greater than the second predetermined value, converting the format of the frame into a pico format,

wherein the first predetermined value is greater than the second predetermined value.

7. The OFDM communication method of claim 2, wherein step (d) comprises determining the second or third symbol as the transmission symbol and converting the format of the frame into a macro format if it is determined that the cell radius is greater than the first predetermined value,

step (f) comprises determining the fourth symbol as the transmission symbol and converting the format of the frame into a micro format if it is determined that the cell radius is greater than the second predetermined value, and

step (g) comprises determining the fifth symbol as the transmission symbol and converting the format of the frame into a pico format if it is determined that the cell radius is not greater than the second predetermined value.

8. The OFDM communication method of claim 6, wherein the macro format comprises: a first symbol, which contains control information;

a second symbol, which is suitable to channel characteristics where a channel change speed is slow and a channel length is long; and

a third symbol, which is suitable to channel characteristics where the channel change speed is fast and the channel length is long.

9. The OFDM communication method of claim 6, wherein the micro format comprises:

a first symbol, which contains control information; and

a fourth symbol, which is suitable to channel characteristics where a channel change speed and a channel length are medium.

10. The OFDM communication method of claim 6, wherein the pico format comprises:

a first symbol, which contains control information; and

a fifth symbol, which is suitable to channel characteristics where a channel change speed is slow and a channel length is short.

11. The OFDM communication method of claim 2, wherein step (d) further comprises the steps of:

(d1) if it is determined that the cell radius is greater than the first predetermined value, determining whether the channel change speed is greater than a predetermined speed;

(d2) if it is determined that the channel change speed is not greater than the predetermined speed, determining the second symbol as the transmission symbol; and

(d3) if it is determined that the channel change speed is greater than the predetermined speed, determining the third symbol as the transmission symbol.

12. The OFDM communication method of claim 11, wherein the second symbol determined as the transmission symbol in step (d2) comprises:

a first cyclic prefix, which contains an end portion of transmission data;

a first transmission signal, which contains the transmission data; and

a first cyclic suffix, which contains a beginning portion of the transmission data.

13. The OFDM communication method of claim 11, wherein the third symbol determined as the transmission symbol in step (d3) comprises:

a second cyclic prefix, which contains a plurality of end portions of transmission data and a beginning portion of the transmission data;

a second transmission signal, which contains the transmission data;

a third transmission signal, which contains the transmission data; and

a second cyclic suffix, which contains the beginning portion of the transmission data.

14. The OFDM communication method of claim 11, wherein the third symbol comprises:

a third cyclic prefix, which contains a plurality of end portions of transmission data;

a fourth transmission signal, which contains the transmission data;

a fifth transmission signal, which contains the transmission data; and

a third cyclic suffix, which contains a plurality of beginning portions of the transmission data.

15. An orthogonal frequency division multiplexing (OFDM) communication apparatus to adapt to channel characteristics, comprising:

a symbol inspector, for inspecting a type of a transmission symbol and outputting the result of the inspection as a first control signal; and

a symbol and format converter, for changing at least one of a length of a transmission symbol, a format of a frame, and a format of the transmission symbol in response to the first control signal and a radius of a cell, in which communication is performed.

16. The OFDM communication apparatus of claim 15, wherein the symbol and format converter comprises:

a first comparator, for comparing the cell radius with a first predetermined value in response to the first control signal and outputting the result of the comparison as a second control signal;

a second comparator, for comparing the cell radius with a second predetermined value in response to the second control signal and outputting the result of the comparison as a third control signal; and

a first converter, for determining one among first, second, third, fourth, and fifth symbols as the transmission symbol in response to the first, second, and third control signals and outputting the determined symbol,

wherein the second predetermined value is less than the first predetermined value, the first symbol contains control information, the second symbol is suitable to channel characteristics where a channel change speed is slow and a channel length is long, the third symbol is suitable to channel characteristics where the channel change speed is fast and the channel length is long, the fourth symbol is suitable to channel characteristics where the channel change speed and the channel length are medium, and the fifth symbol is suitable to channel characteristics where the channel change speed is slow and the channel length is short.

17. The OFDM communication apparatus of claim 15, wherein the symbol and format converter comprises:

a third comparator, for comparing the cell radius with a first predetermined value and outputting the result of the comparison as a fourth control signal;

a fourth comparator, for comparing the cell radius with a second predetermined value in response to the fourth control signal and outputting the result of the comparison as a fifth control signal; and

a second converter, for converting the format of the frame into one of a macro format, a micro format, and a pico format in response to the fourth and fifth control signals,

wherein the first predetermined value is greater than the second predetermined value.

18. The OFDM communication apparatus of claim 16, wherein the first converter converts the format of the frame into one of a macro format, a micro format, and a pico format in response to the second and third control signals.

19. The OFDM communication apparatus of claim 16, wherein the first converter comprises a fifth comparator, for comparing the channel change speed with a predetermined speed in response to the second control signal and outputting the result of the comparison as a sixth control signal, and a format converter, for converting the format of the determined symbol in response to the sixth control signal.